

## ***Pseudochromis lugubris* and *P. tonozukai*, two new dottyback fish species from the Indo-Australian Archipelago (Perciformes: Pseudochromidae: Pseudochrominae)**

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### **Abstract**

*Pseudochromis lugubris* is described from seven specimens, 38.4–65.9 mm SL, from southeastern New Guinea. It is distinguished from congeners in having the following combination of characters: dorsal-fin rays III,26–27; anal-fin rays III,14; scales in lateral series 48–50; circumpeduncular scales 20; and caudal fin truncate to emarginate, sometimes weakly trifurcate. *Pseudochromis tonozukai* is described from two specimens, 62.6–65.9 mm SL, from Weh Island, northern Sumatra, Indonesia. It is distinguished from congeners in having the following combination of characters: dorsal-fin rays III,25; anal-fin rays III,14–15; scales in lateral series 34–36; caudal fin rhomboid to trifurcate; and upper part of pectoral fin without small dark spot.

**Key words:** Pseudochromidae, dottyback, *Pseudochromis lugubris*, *Pseudochromis tonozukai*, new species

### **Introduction**

The Indo-Pacific family Pseudochromidae is divided among four subfamilies of small reef-associated fishes. Members of the largest subfamily, Pseudochrominae, are distinguished from other pseudochromids in having five (versus four or fewer) segmented rays in the pelvic fins. The subfamily was revised by the first author (Gill 2004), who recognised 80 species in 10 genera. However, he encountered difficulty in allocating several specimens to species. Among such specimens was a 38.4-mm SL specimen collected by J.L. Earle off Wahawe Point, Milne Bay, Papua New Guinea, which Gill tentatively identi-

fied as *P. bitaeniatus* (Fowler, 1931). However, it differed from all other *P. bitaeniatus* specimens he had examined in having smaller, more numerous scales, and a relatively dark coloration more typical of larger specimens of *P. bitaeniatus* (greater than 45–50 mm SL). While the first author's revision was in press, the second author sent him a loan of recently collected *Pseudochromis* from the Indo-Australian Archipelago for identification. The loan included six specimens from the Louisiade Archipelago that agreed with the Milne Bay specimen in the above and other characters, and confirmed that they represent a species distinct from *P. bitaeniatus*. Also in the loan were two specimens of a distinctive new species of *Pseudochromis* from northern Sumatra; it also closely resembles *P. bitaeniatus*. Underwater photographs of both species have since been published by Michael (2004).

The purposes of the present paper are to describe the two new species and to compare them with each other, *P. bitaeniatus* and other pseudochromine species.

## Methods and Materials

Methods of counting, measuring and presentation follow Gill (2004). Minimum and maximum value ranges are given first for all type specimens, followed, where variation was noted, by holotype values enclosed in parentheses. Where counts were recorded bilaterally from a holotype, both counts are given and separated from each other by a slash; the first value presented is the left count. Institutional codes follow Leviton *et al.* (1985).

### *Pseudochromis lugubris* new species

Mournful Dottyback

(Figures 1–2; Table 1)

*Holotype:* BPBM 36253, 38.4 mm SL, Papua New Guinea, Milne Bay, west of Wahawe Point, 10°16'S 150°42'42"E, cave in 6 m, rotenone, J.L. Earle, 13 December 1993.

*Paratypes:* AMS I.40685-001, 47.3 mm SL, Papua New Guinea, Louisiade Archipelago, Conflict Group, east end of Irai Island, 10°46'S 151°42'E, outer reef slope, coral and rock, 12–15 m, rotenone, G.R. Allen, 1 October 1997; BMNH 2001.3.8.1, 55.9 mm SL, collected with AMS I.40685-001; USNM 364533, 59.2 mm SL, collected with AMS I.40685-001; WAM P.31355-015, 3: 45.7–65.9 mm SL, collected with AMS I.40685-001.

*Diagnosis.* A species of *Pseudochromis* with the following combination of characters: dorsal-fin rays III,26–27; anal-fin rays III,14; scales in lateral series 48–50; and caudal fin truncate to emarginate, sometimes weakly trifurcate.

*Description.* Dorsal-fin rays III,26–27 (III,26), last 11–27 (11) segmented rays branched; anal-fin rays III,14, all segmented rays branched; pectoral-fin rays 15–18 (17/17); upper procurrent caudal-fin rays 7–8; lower procurrent caudal-fin rays 7; total caudal-fin rays 31–32 (31); scales in lateral series 48–50 (49/50); anterior lateral-line scales 30–38 (?/31); anterior lateral line terminating beneath segmented dorsal-fin ray 13–19 (?/15);

posterior lateral-line scales 6–20 + 0–2 (6 + 1/6 + 1); scales between lateral lines 4–6 (?/5); horizontal scale rows above anal-fin origin 15–17 + 1 + 2–4 = 19–21 (16 + 1 + 3/16 + 1 + 3); circumpeduncular scales 20; predorsal scales 23–28 (26); scales behind eye 2–3 (3); scales to preopercular angle 4–6 (5); gill rakers 4–5 + 11–13 = 15–17 (4 + 13); pseudo-branch filaments 10–11 (11); circumorbital pores 21–39 (21/21); preopercular pores 9–17 (10/9); dentary pores 4; posterior interorbital pores 1–2 (2).



**FIGURE 1.** *Pseudochromis lugubris*, underwater photo, Milne Bay, Papua New Guinea. (Photo by S.W. Michael)

Lower lip incomplete; dorsal and anal fins without distinct scale sheaths, although sometimes with scales intermittently overlapping fin bases; predorsal scales extending anteriorly to point ranging from posterior edge of AIO pores to mid AIO pores; opercle with 3–5 weakly to moderately developed serrations; teeth of outer ceratobranchial-1 gill rakers well developed on raker tips only; anterior dorsal-fin pterygiophore formula  $S^*/S/S + 3/1 + 1/1/1/1/1 + 1^*/1$  ( $S/S/S + 3/1 + 1/1/1/1/1 + 1$ ); dorsal-fin spines moderately stout and pungent; anterior anal-fin pterygiophore formula  $3/1/1 + 1^*/1$  or  $3/1 + 1/1/1 + 1^*$  ( $3/1/1/1 + 1$ ); anal-fin spines moderately stout and pungent, second spine much stouter than third; pelvic-fin spine moderately stout and pungent; second segmented pelvic-fin ray longest; caudal fin truncate to emarginate, sometimes with middle rays slightly produced (thus fin weakly trifurcate); vertebrae 10 + 16; epineurals 13–14 (14); epurals 3.

Upper jaw with 2–4 pairs of curved, enlarged caniniform teeth anteriorly, medial pair smallest, and 4–6 (at symphysis) to 2 or 3 (on sides of jaw) inner rows of small conical teeth; lower jaw with 1–3 pairs of curved, enlarged caniniform teeth anteriorly, the medial pair smallest, and 4 or 5 (at symphysis) to 1 (on sides of jaw) inner rows of small, conical

teeth, teeth on middle of jaw larger and curved; vomer with 2 or 3 rows of small conical teeth, forming chevron; palatine with 1–3 rows of small conical teeth arranged in elongate, suboval patch, anterior part of the tooth patch more-or-less contiguous with posterolateral arm of vomerine tooth patch; ectopterygoid edentate; tongue moderately pointed and edentate.

As percentage of SL (based on 38.4-mm SL holotype and four paratypes, 47.3–65.9 mm SL): head length 22.5–26.3 (26.3); orbit diameter 7.7–9.4 (9.4); snout length 6.3–7.0 (7.0); fleshy interorbital width 4.7–5.5 (5.5); bony interorbital width 3.6–3.9 (3.9); body width 10.3–11.2 (11.2); snout tip to posterior tip of retroarticular bone 14.8–16.1; predorsal length 30.9–34.9 (34.9); prepelvic length 31.3–32.9 (32.3); posterior tip of retroarticular bone to pelvic-fin origin 18.2–20.9 (18.2); dorsal-fin origin to pelvic-fin origin 24.3–25.5 (25.5); dorsal-fin origin to middle dorsal-fin ray 30.5–35.7 (30.5); dorsal-fin origin to anal-fin origin 39.8–41.7 (39.8); pelvic-fin origin to anal-fin origin 31.7–34.2 (33.9); middle dorsal-fin ray to dorsal-fin termination 23.3–24.9 (24.2); middle dorsal-fin ray to anal-fin origin 22.4–24.3 (22.9); anal-fin origin to dorsal-fin termination 29.7–33.7 (29.7); anal-fin base length 23.2–27.3 (23.2); dorsal-fin termination to anal-fin termination 14.1–15.9 (14.1); dorsal-fin termination to caudal peduncle dorsal edge 10.8–12.3 (10.9); dorsal-fin termination to caudal peduncle ventral edge 17.3–18.5 (17.4); anal-fin termination to caudal peduncle dorsal edge 18.6–21.2 (18.8); anal-fin termination to caudal peduncle ventral edge 12.2–13.2 (12.2); first dorsal-fin spine 1.1–1.9 (1.8); second dorsal-fin spine 4.2–5.1 (4.7); third dorsal-fin spine 5.8–7.6 (7.6); first segmented dorsal-fin ray 11.0–13.5 (11.7); fourth last segmented dorsal-fin ray 14.4–17.1 (14.6); first anal-fin spine 1.8–2.7 (2.3); second anal-fin spine 5.8–7.0 (7.0); third anal-fin spine 6.8–7.9 (7.8); first segmented anal-fin ray 11.7–12.3 (11.7); fourth last segmented anal-fin ray 13.5–15.6 (13.5); third pectoral-fin ray 13.5–16.0 (14.3); pelvic-fin spine 7.7–9.1 (9.1); second segmented pelvic-fin ray 19.8–25.8 (20.1); caudal-fin length 21.9–25.0 (21.9).

Live coloration (based on field notes taken by J.E. Randall from the holotype when freshly dead and underwater photographs taken by S.W. Michael at Milne Bay, Papua New Guinea; Fig. 1). Head olive to reddish or greenish grey, becoming purplish grey on upper operculum, and purple to blue on ventral part of head and lips; short dark grey to black bar on midposterior part of orbital rim, narrowly edged posteriorly with bright blue; anterior edge of dark bar and posteroventral edge of orbit bright orange, this coloration usually expanded ventrally as triangular or tear-drop shaped mark beneath middle of eye; iris brown to orange, with bright blue suboval ring around pupil; body greenish to brownish grey, darker posteriorly, becoming pale grey-brown to golden brown on abdomen and lower sides; scales of body and nape darker on posterior edges, giving slight reticulated pattern; caudal peduncle with two broad, though indistinct, bluish grey stripes, extending along dorsal and ventral margins of peduncle; dorsal and anal fins brown to green basally, becoming greyish to reddish hyaline distally, with indistinct narrow blue stripes on distal two-thirds of fins; caudal fin dark greenish to bluish grey basally, becoming pinkish to blu-

ish hyaline distally, with two broad dark blue-grey stripes (extensions of caudal peduncle stripes) on upper and lower parts of fin, these more-or-less converging on distal part of middle rays; pectoral fins pinkish hyaline; pelvic-fin rays pale blue, with fin membranes pinkish hyaline.

Preserved coloration. Pattern similar to live coloration: head and body become brown to dark brown, with interorbital area, snout and front of lips dark grey-brown; dark grey to black bar on midposterior part of orbital rim remains; bright orange markings below and behind eye become pale brown to white; indistinct dark grey-brown broad stripe extending from upper part of operculum to upper part of caudal base (best developed posteriorly and more obvious in small specimens); small specimens with second indistinct dark grey-brown broad stripe extending from anal-fin base to lower part of caudal-fin base; dorsal and anal fins become dusky hyaline to dark grey-brown, darkest in large specimens; caudal fin becomes pale brown, brownish hyaline posteriorly; dark stripes on caudal fin become dark grey to black; pectoral fins brownish hyaline; pelvic fins brownish hyaline to brown.

*Habitat and distribution.* *Pseudochromis lugubris* is known only from southeastern Papua New Guinea (Fig. 2). It has been observed and collected from reef caves, reef overhangs and reef slopes in 6–15 m. According to Michael (2004: 122), it is “not uncommon on sheltered fringing reefs and on reef faces in Milne Bay.”

*Comparisons.* *Pseudochromis lugubris* appears to be closely related to *P. bitaeniatus* from throughout the West Pacific, and *P. tonozukai* from off northern Sumatra. They resemble each other, and differ from other pseudochromids, in having a combination of two heavily pigmented stripes on the body (indistinct in *P. lugubris* and large *P. bitaeniatus*), which converge on the midposterior part of the caudal fin, and a rhomboid to trifurcate caudal fin (though this is weakly developed in *P. lugubris*). They are readily distinguished by several meristic characters (Table 1): dorsal-fin rays (25–27, usually 26 in *P. bitaeniatus*, 26–27 in *P. lugubris*, and 25 in *P. tonozukai*); scales in lateral series (42–47 in *P. bitaeniatus*, 48–50 in *P. lugubris*, and 34–36 in *P. tonozukai*); anterior lateral-line scales (27–35 in *P. bitaeniatus*, 30–38 in *P. lugubris*, and 25–27 in *P. tonozukai*); and circumpeduncular scales (18–20 in *P. bitaeniatus*, 20 in *P. lugubris*, and 16 in *P. tonozukai*). *Pseudochromis tonozukai* has longer pelvic fins than the other two species (second segmented pelvic-fin ray 29.3–30.7 % SL versus 18.4–24.4 % SL in *P. bitaeniatus* and 19.8–24.4 % SL in *P. lugubris*), though we anticipate considerable ontogenetic variation in this character. The three species also differ markedly in coloration details (compare Figs 1, 3 and 4–5), though, as noted above, *P. lugubris* has similar preserved and live coloration patterns to large specimens of *P. bitaeniatus* (see further comments below on possible ontogenetic variation in *P. lugubris*). Specimens of *P. lugubris* key to *P. bitaeniatus* using the key to *Pseudochromis* species provided by Gill (2004).

**TABLE 1.** Frequency distributions for selected meristic characters of *Pseudochromis bitaeniatus* (after Gill 2004), *P. lugubris* and *P. tonozukai*. \* indicates characters for which bilateral counts are included.

Species	Segmented dorsal rays			*Scales in lateral series																
	25	26	27	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
<i>bitaeniatus</i>	4	30	5	-	-	-	-	-	-	-	-	7	15	20	21	10	4	-	-	-
<i>lugubris</i>	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	9	
<i>tonozukai</i>	2	-	-	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	

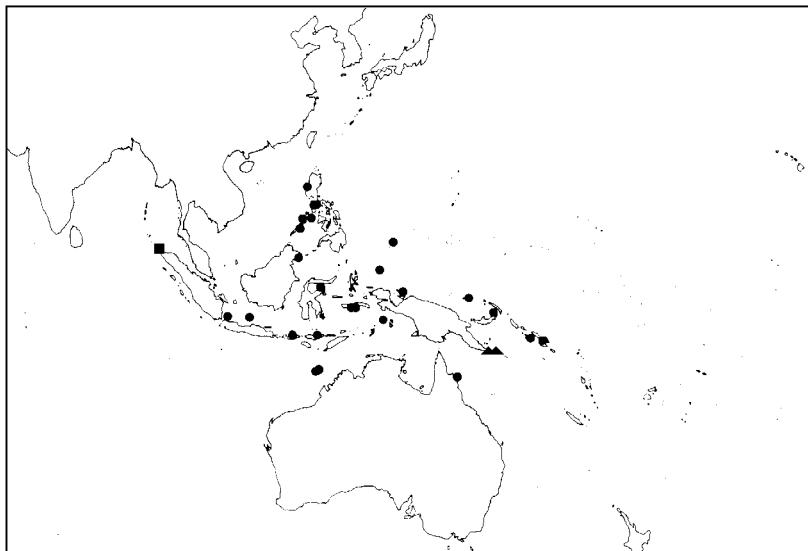
  

Species	*Anterior lateral-line scales														Circumpeduncular scales				
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	16	17	18	19	20
<i>bitaeniatus</i>	-	-	3	4	12	15	13	8	5	1	2	-	-	-	-	-	8	15	15
<i>lugubris</i>	-	-	-	-	-	1	2	1	2	5	-	-	-	1	-	-	-	-	7
<i>tonozukai</i>	1	1	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-

**Remarks.** The specific epithet is from the Latin, meaning “mournful,” alluding to the relatively sombre coloration and the tear-like marking beneath the eye.

The observation that the broad dark stripes are more prominent in small specimens of *P. lugubris* suggests that they may be even more conspicuous in small juveniles. This is further suggested by ontogenetic variation in the related *P. bitaeniatus* (Gill 2004).

Michael (2004) included a photograph of this species from Milne Bay, Papua New Guinea. He suggested that it might be conspecific with a species he termed the “Togean dottyback,” photographed by R.H. Kuiter at Tomini Bay, Togean Islands, Indonesia. Although specimens are lacking from this locality to verify their identification, Kuiter’s photographs (one of which was reproduced by Michael, 2004: 121; an additional photograph was sent to the first author by R.H. Kuiter) are almost certainly of large individuals of *P. bitaeniatus*.



**FIGURE 2.** Distributional records for *Pseudochromis bitaeniatus* (closed circles; after Gill 2004: fig. 32), *P. lugubris* (triangles) and *P. tonozukai* (square).

***Pseudochromis tonozukai* new species**

Spot-stripe Dottyback

(Figures 2, 4–5; Table 1)

*Pseudochromis* sp.; Michael, 2004: 139–140 (colour photos; sexual dimorphism; natural history)

**Holotype:** NCIP 6187, 65.9 mm SL, gravid female, Indonesia, northern Sumatra, Aceh, Weh Island, near Point Seukundo ( $5^{\circ}52'N$   $95^{\circ}17'51"E$ ), 36 m, spear, G.R. Allen, 27 January 1999.

**Paratype:** WAM P.31526-001, 62.6 mm SL, male, collected with holotype.

**Diagnosis.** The following combination of characters distinguishes *P. tonozukai* from all other pseudochromines: dorsal-fin rays III,25; anal-fin rays III,14–15; scales in lateral series 34–36; caudal fin rhomboid to trifurcate; and upper part of pectoral fin without small dark spot.

**Description.** Dorsal-fin rays III,25, all segmented rays branched; anal-fin rays III,14–15 (III,15), all segmented rays branched; pectoral-fin rays 17–18 (18/18); upper procurrent caudal-fin rays 6; lower procurrent caudal-fin rays 5–6 (5); total caudal-fin rays 28–29 (28); scales in lateral series 34–36 (35/36); anterior lateral-line scales 25–27 (26/27); anterior lateral line terminating beneath segmented dorsal-fin ray 18–19 (19/18); posterior lateral-line scales 7–13 + 0–1 (7 + 0/7 + 0); scales between lateral lines 3; horizontal scale rows above anal-fin origin 11–14 + 1 + 3 (11 + 1 + 3/12 + 1 + 3); circumpeduncular scales 16; predorsal scales 21; scales behind eye 3; scales to preopercular angle 5; gill rakers 6 +

12; pseudobranch filaments 11–12 (11); circumorbital pores 24–31 (24/25); preopercular pores 12–24 (13/12); dentary pores 4; posterior interorbital pores 1.

Lower lip incomplete; dorsal and anal fins without distinct scale sheaths, though with scales intermittently overlapping fin bases; predorsal scales extending anteriorly to posterior nasal pores; opercle with 5 moderately distinct serrations; teeth of outer ceratobranchial-1 gill rakers well developed on raker tips only; anterior dorsal-fin pterygiophore formula S/S/S + 3/1 + 1/1/1/1/1 + 1/1; dorsal-fin spines moderately stout and pungent; anterior anal-fin pterygiophore formula 3/1 + 1/1/1 + 1/1/1 + 1; anal-fin spines moderately stout and pungent, the second spine stouter than the third; pelvic-fin spine moderately stout and pungent; second segmented pelvic-fin ray longest; caudal fin angular with upper, lower and mid rays weakly to strongly produced to give rhomboid to trifurcate shape; vertebrae 10 + 16; epineurals 13–15 (15); epurals 3.

Upper jaw with 2 pairs of curved, enlarged caniniform teeth anteriorly, medial pair smallest, and 6 or 7 (at symphysis) to 2 or 3 (on sides of jaw) inner rows of small conical teeth; lower jaw with 1 or 2 pairs of curved, enlarged caniniform teeth anteriorly, medial pair smallest, and 4 or 5 (at symphysis) to 1 (on sides of jaw) inner rows of small, conical teeth, teeth on middle of jaw larger and curved; vomer with 2 rows of small conical teeth, forming chevron; palatine with 1–3 rows of small conical teeth arranged in elongate, suboval patch, anterior part of the tooth patch more-or-less contiguous with posterolateral arm of vomerine tooth patch; ectopterygoid edentate; tongue moderately pointed and edentate.

As percentage of SL: head length 23.6–24.4 (24.4); orbit diameter 8.1–8.3 (8.3); snout length 6.2–6.4 (6.4); fleshy interorbital width 5.5–5.9 (5.9); bony interorbital width 3.8–4.6 (4.6); body width 11.5–11.7 (11.5); snout tip to posterior tip of retroarticular bone 13.8–14.1 (13.8); predorsal length 31.6–32.6 (32.6); prepelvic length 30.7–30.8 (30.8); posterior tip of retroarticular bone to pelvic-fin origin 17.9; dorsal-fin origin to pelvic-fin origin 27.6–28.2 (28.2); dorsal-fin origin to middle dorsal-fin ray 32.3–34.6 (34.6); dorsal-fin origin to anal-fin origin 41.1–41.4 (41.4); pelvic-fin origin to anal-fin origin 28.8–30.2 (28.8); middle dorsal-fin ray to dorsal-fin termination 26.7–27.0 (27.0); middle dorsal-fin ray to anal-fin origin 24.4–25.0 (25.0); anal-fin origin to dorsal-fin termination 33.8–34.8 (33.8); anal-fin base length 27.5–28.4 (27.5); dorsal-fin termination to anal-fin termination 14.5–14.7 (14.7); dorsal-fin termination to caudal peduncle dorsal edge 12.3–12.7 (12.7); dorsal-fin termination to caudal peduncle ventral edge 18.7–19.0 (19.0); anal-fin termination to caudal peduncle dorsal edge 19.9–20.0 (19.9); anal-fin termination to caudal peduncle ventral edge 13.5–14.1 (13.5); first dorsal-fin spine 1.8–2.4 (2.4); second dorsal-fin spine 4.5–5.6 (5.6); third dorsal-fin spine 7.3–8.0 (8.0); first segmented dorsal-fin ray 12.6–12.8 (12.6); fourth last segmented dorsal-fin ray 16.8–18.5 (16.8); first anal-fin spine 1.6–2.6 (2.6); second anal-fin spine 4.2–5.0 (5.0); third anal-fin spine 6.7–7.3 (7.3); first segmented anal-fin ray 9.1–11.4 (11.4); fourth last segmented anal-fin ray 15.8–17.4 (15.8); third pectoral-fin ray 14.3–14.5 (14.3); pelvic-fin spine 10.5–10.9 (10.9); second segmented pelvic-fin ray 29.3–30.7 (29.3); caudal-fin length 29.2–34.7 (34.7).

Live coloration (based on underwater photographs of individuals taken at the type locality by T. Tonozuka). Females (Fig. 4): head grey, becoming pale pink ventrally; indistinct reddish to maroon stripe extending from posterior edge of eye to opercle, with scattered blue to mauve spots within stripe; lower part of stripe on operculum with fine gold vermiculations; blue to mauve curved streak extending from mid-posterior edge of orbit around outer edge of infraorbital stripe; iris yellowish grey, with bright blue suboval ring around pupil; dorsal contour of body grey, becoming yellowish grey posteriorly; edges of scales within grey to yellowish grey area dark grey, forming chequered to reticulate pattern; remainder of body white with dark reddish grey to dark grey stripe extending from maroon stripe on head to mid-lower part of caudal fin, becoming brown to black on fin; scales within stripe each with dark blue to mauve basal spot; dorsal fin yellowish grey on basal half, remainder of fin yellowish hyaline with indistinct mauve spots and mauve distal margin; anal fin hyaline, narrowly pale blue on base, with distal margin pale blue; brown to black stripe on caudal fin broadly bordered with white on dorsal edge and pale grey on ventral edge; white area bordered dorsally with dark yellowish grey stripe, this converging posteriorly with lower brown to black stripe; remainder of caudal fin yellowish hyaline dorsally and mauvish hyaline ventrally; pelvic fin pale blue to white basally, remainder of fin hyaline; pectoral fin pinkish hyaline. Males (Fig. 5): head grey, becoming pale pink ventrally; indistinct reddish to maroon stripe extending from posterior edge of eye to opercle, with scattered blue to mauve spots within stripe; lower part of stripe on operculum with fine gold vermiculations; blue to mauve curved streak extending from mid-posterior edge of orbit around outer edge of infraorbital stripe; iris yellowish grey, with turquoise suboval ring around pupil; dorsal contour of body grey, edges of scales within grey area dark grey, forming chequered to reticulate pattern; remainder of body white with broad maroon (anteriorly) to orange stripe extending from maroon stripe on head to mid-lower part of caudal fin, becoming brown to black on posterior part of caudal fin; scales within stripe each with dark blue to mauve basal spot; dorsal fin greyish hyaline on basal half, remainder of fin hyaline with indistinct mauve spots and mauve distal margin; anal fin hyaline, narrowly pale blue on base, with distal margin indistinctly mauve; orange to black stripe on caudal fin bordered with white, broadly on dorsal edge and narrowly on ventral edge; upper white area bordered dorsally with yellowish grey stripe, this converging posteriorly with lower orange to black stripe; remainder of caudal fin yellowish hyaline dorsally and mauvish hyaline ventrally; pelvic fin pale blue to white basally, remainder of fin hyaline; pectoral fin pinkish hyaline.

Preserved coloration. Pattern similar to live coloration: pale areas on head, body and fins become pale yellow to pale brown; blue to mauve spots on head and body become brown to dark grey; dorsal part of head and body become greyish brown, with dark reticulations on dorsal part of body becoming dark grey-brown; dark reddish grey to dark grey stripe on female becoming dark greyish brown to dark grey; maroon to orange stripe on male becoming dark greyish brown and distinct anteriorly, and dusky brown and indistinct

posteriorly; dark stripes on caudal fin remain, becoming greyish brown to dark grey or black.



**FIGURE 3.** *Pseudochromis bitaeniatus*, underwater photo, Mabul, Sabah, Malaysia. (Photo by R.H. Kuiter).



**FIGURE 4.** *Pseudochromis tonozukai*, female, underwater photo, Weh Island, off northern Sumatra, Indonesia. (Photo by T. Tonozuka).



**FIGURE 5.** *Pseudochromis tonozukai*, male, underwater photo, Weh Island, off northern Sumatra, Indonesia. (Photo by T. Tonozuka)

*Habitat and distribution.* *Pseudochromis tonozukai* is known only from Weh Island, off northern Sumatra, Indonesia (Fig. 2). It was observed and collected in 36–40 m. The habitat consisted of a 45° slope with mixed sand-rubble substrate. Approximately 10 individuals were observed in the proximity of dead coral outcrops. Several of these were solitary individuals, but at least four male-female pairs were seen.

*Comparisons.* *Pseudochromis tonozukai* appears to be related to *P. bitaeniatus* and *P. lugubris*. Characters distinguishing the three species are discussed under Comparisons for *P. lugubris*.

*Pseudochromis tonozukai* might also be confused with *P. reticulatus* Gill and Woodland (1992) from northwestern Australia and *P. pictus* Gill and Randall (1998) from Alor Island, Indonesia. Both of these species have a pointed caudal fin (rounded with the middle rays produced) and are pale with dark reticulations on the upper part of the body. However, neither species has a stripe on the lower part of the body, and both have more segmented dorsal-fin rays than *P. tonozukai* (26–27 versus 25). *Pseudochromis pictus* further differs in having more circumpeduncular scales (20 versus 16).

Due largely to the unusual caudal-fin shape, specimens of *P. tonozukai* will not key unambiguously beyond couplet 52 of Gill's (2004) key to *Pseudochromis* species. It is readily distinguished from species at or following that couplet in having the following character combination: caudal fin rhomboid to trifurcate; segmented dorsal-fin rays 25; segmented anal-fin rays 14–15; and upper part of pectoral fin without small dark spot. The live and preserved colorations also readily distinguish *P. tonozukai* from these and all other pseudochromid species.

*Remarks.* The specific epithet is for Takamasa Tonozuka, who first discovered the species and brought it to the attention of the second author.

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